

# Tracey Hollingsworth

## Critical Content and Skills

**Content Area:** Mathematics

**Math:**

- Students will understand that solid geometric relationships, patterns, and functions can be used to develop mathematical arguments with respect to the characteristics and properties of two- and three-dimensional art.
- Students will understand that visualization, spatial reasoning, and geometric modeling can be used to solve problems in multiple fields, including mathematics and art.

**Math:**

- How can math be applied to create and interpret art?
- How can technology be used to explore, expand, and interpret mathematics in terms of art?

### MLR - Geometric Figures - 1.

- Students represent solid figures in two dimensions.
- **Lessons:**
  1. Points, Lines, and Planes in Space
  2. Prisms and Cylinders
  3. Pyramids, Cones, and Spheres
  4. Plane Sections and Reflection Symmetry in Space
  5. Viewing and Making Solids and Surfaces
  6. Applications of Solid Geometry

#### Students will know... **Formative Assessment**

1. **Students will know** the important properties and relationships between basic two- and three-dimensional figures.

#### Students will be able to... **Product Summative Assessment**

1. Explain:
- Explain characteristics and properties of two- and three-dimensional geometric shapes

		and develop mathematical arguments about geometric relationships.	
2. <b>Students will know</b> properties of solids and surfaces of three-dimensional figures such as prisms and cylinders.	Quizzes Discussion Observation	2. Interpret:	<a href="#">Sketch</a> & <a href="#">Glogster</a>
		<ul style="list-style-type: none"> <li>• Illustrate the properties of solids and surfaces of three-dimensional figures.</li> </ul>	
3. <b>Students will know</b> properties of three-dimensional figures such as pyramids, cones, and spheres.	Quizzes Discussion Observation	3. Apply:	Sketch & Glogster
		<ul style="list-style-type: none"> <li>• Build three-dimensional figures.</li> </ul>	
4. <b>Students will know</b> that a three-dimensional figure can be intersected a two-dimensional plane.	Work Sample	4. Perspective:	<a href="#">Tumblr</a> & <a href="#">Bubbl</a>
		<ul style="list-style-type: none"> <li>• Analyze the effect of an intersection of a two-dimensional plane on a three-dimensional figure.</li> </ul>	
5. <b>Students will know</b> that there are multiple views in three-dimensions that can be represented in two-dimensions.	Observation Work Sample	5. Empathy:	Frank Lloyd Wright <a href="#">Architect Studio 3D</a> Floor Plans
		<ul style="list-style-type: none"> <li>• Imagine three-dimensions on a two-dimensional plane.</li> </ul>	
6. <b>Students will know</b> the applications of solid geometry.	Self-Assessment Dialogues	6. Self Knowledge:	<a href="#">Calameo</a> Publication
		<ul style="list-style-type: none"> <li>• Realize how solid geometry applies in the real world, including the field of art.</li> </ul>	

## Formative

Q - Quizzes

WS - Work Sample  
SA - Self Assessment  
P - Prompts  
O - Observation  
D - Dialogues

## **Product - Summative**

CL- Comic Life  
IM - Imovie  
B - Blog  
PC - Podcast  
W - Wikispace  
G - Glogster